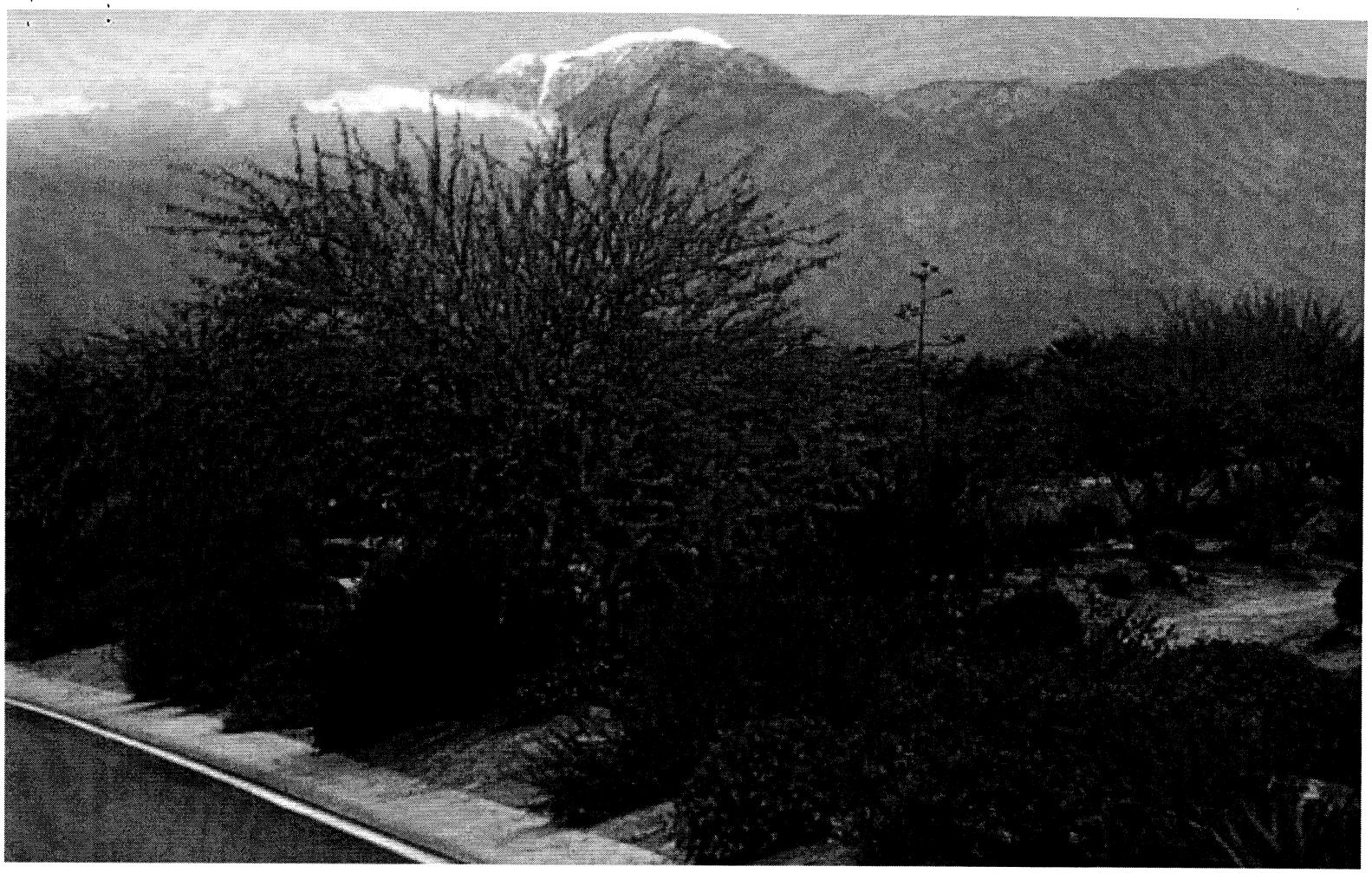

In keeping with the Coachella Valley Water Management Plan to assure that water is available to meet future needs, the district has adopted a landscaping ordinance designed to reduce outside water use for new developments by 25 percent. Other valley water agencies and cities have agreed to adopt similar ordinances.

Landscaping water reduced

Several years ago, Coachella Valley Water District water conservation staff, working with their counterparts from other water agencies throughout the state, helped the legislature develop a state law limiting landscape design to use no more than 80 percent of the water the entire property would require if planted in grass.

The new ordinance ratchets that down by 25 percent.

The valley-wide Landscape Water Conservation Ordinance Committee that reviewed and drafted the new model ordinance included representatives from every community in Coachella Valley, and Riverside County and the building and landscape industry representatives. Every city in Coachella Valley except Palm Desert will be asked to adopt the same model ordinance. Palm Desert's current landscape ordinance is even more stringent in its water conservation requirements.

A representative from the Building Industry Association endorsed the ordinance at the CVWD board meeting. Builders, landscape architects and contractors have expressed frustration at the lack of a uniform ordinance throughout Coachella Valley.

Reducing domestic water demand by at least 10 percent is among crucial long-term goals established by CVWD's 35-year *Water Management Plan*, which the board approved last year. Because 70-80 percent of all domestic water use occurs outside of the home, landscape irrigation is considered a logical starting point for water conservation efforts.

"We think (this ordinance) is a reasonable step," CVWD's general manager-chief engineer Steve Robbins told the board prior to its unanimous approval of the new regulations. "It's an attempt to recognize that we do live in the desert, and that water is something we cannot take for granted."

Existing landscaping will not be affected by the ordinance unless it undergoes refurbishing.

Chemicals in water make news

Ensuring that every drop of the more than 39 billion gallons it provides annually meets all federal and state health standards for drinking water is a top priority at Coachella Valley Water District.

State and federal health agencies establish what are known as maximum contamination levels (MCLs) for chemicals that are known or suspected carcinogens, or that pose other serious health risks.

MCLs are stringent guidelines addressing what are considered to be acceptable levels of contaminants in drinking water. Typically, an MCL involves a level that—realistically, based on cost-effectiveness and technology—is both detectable and treatable.

Most contaminants are measured in parts per billion (ppb). One ppb is the equivalent of 25 drops in enough water to fill an Olympic-sized swimming pool. But technology is advancing to the point that parts per trillion (ppt) now are being considered as the standard measurement for some chemicals.

The federal Environmental Protection Agency (EPA) also establishes an MCL goal (MCLG) for contaminants, below which there is no known or expected health risk. For known carcinogens the federal MCLG always is set at "zero," even if the technology is not yet available to detect and remove the identified chemical entirely.

The state equivalent, set by the California EPA, is a Public Health Goal (PHG). While the federal EPA normally sets a contaminant's MCL and MCLG at the same time, California's EPA often establishes a PHG first, followed by an MCL. There are some chemicals, however, that have an MCL, but no PHG.

MCLGs and PHGs in of themselves are not regulatory, whereas state and federal MCLs are enforceable.

CVWD remains committed to the principle that all water-related health and safety standards should be based solely on good, solid scientific practices and procedures, not politics or media attention. Naturally, the costs associated with detecting and removing chemical constituents from drinking water are passed on to consumers, who should not be asked to fund such expenses when they are not justified.

This past year the one chemical attracting the most attention was perchlorate.

Perchlorate—best known for its use as a solid rocket propellant but also popular in the manufacture of fireworks, explosives and some fertilizers—has been linked in some studies to thyroid-related illnesses—but only recently has it attracted significant media attention and public scrutiny.

In scores of locations in California the groundwater has been contaminated by plumes of perchlorate that almost always are traced to current or former military bases or defense contractors. Because such industrial complexes are not present in Coachella Valley, the potential for direct groundwater contamination in this fashion is virtually nonexistent.

Perchlorate has been discovered, however, in Colorado River water, which provides more than two-thirds of the agricultural irrigation in Coachella Valley. Contamination has been traced to a Henderson, Nev., plant, where perchlorate seeped into local tributaries and found its way into Lake Mead, the primary Lower Basin storage reservoir for the Colorado River, which is Southern California's primary water supply.

That factory, like many others manufacturing or using perchlorate, was built in the 1940s and the chemical was made there until 1998. The ability to identify the presence of perchlorate with any level of sophistication was not possible until 1997, however, when new technology made possible detection levels of four parts per billion (ppb). Previously, no detection was available below 400 ppb.

No federal or state MCL is in effect for perchlorate. Legislation was introduced calling for federal standards by July 1, 2004, but according to the EPA, enforceable regulations for drinking water will not be available until 2007 at the earliest.

State health officials, meanwhile, have released a draft PHG for public comment, one that sets the "no risk" level for perchlorate at either 2 ppb or 6 ppb, depending upon which criteria are used. California hopes to have a standard for perchlorate by next year.

In January 2002 the California Department of Health Services (DHS) lowered the action advisory level for perchlorate from 18 ppb to 4 ppb. When the state lowered this guideline, CVWD took a La Quinta-area well out of service when perchlorate was detected there at levels between 5 ppb and 6 ppb, even though it was not required to do so. DHS's well closure recommendation doesn't go into effect until perchlorate levels reach or exceed 40 ppb.

No additional action has been necessary at CVWD wells since this closure in 2002.

Colorado River water has been used to irrigate crops since completion of the Coachella Canal in the late 1940s. Scientists believe perchlorate began contaminating Lake Mead as early as the 1970s, so it is possible that the chemical has been in imported water delivered to this area for many years.

Aggressive efforts are underway in Nevada to cleanup perchlorate at the source of the contamina-

"Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/ Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791."
—California Department of Health Services

"Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien." —CDHS

tion. This is considered the more efficient and cost-effective way to address the problem, although to date more than $75 million has been spent. Perchlorate recently was measured at 12 ppb in Lake Mead. Levels in the river have been dropping, however. It was 9 ppb in 1997 when measured at Metropolitan Water District's Colorado River Aqueduct intake and only 5 ppb when measured there in 2003.

At present arsenic represents one of the few instances where federal standards are tougher than those adopted by the state. But this situation is only temporary. The federal MCL for arsenic is 10 ppb, but this does not go into effect until January 23, 2006.

The state's current MCL for arsenic is 50 ppb, but California's Office of Environmental Health Hazard Assessment (OEHHA) has released a draft PHG of 4 parts per trillion. This goal was due by Dec. 31, 2002, but has been delayed. State health codes require California to have a new MCL for arsenic published by June 30, 2004. State and federal standards are expected to go into effect simultaneously, however.

At present there are four CVWD wells—all in the lower, southernmost portion of the district—with arsenic levels that would not meet the 10 ppb federal MCL if it was in effect.

The water district is reviewing several ways to address the problem. Unlike perchlorate, arsenic is a naturally occurring and common constituent of groundwater supplies throughout the world.

Like perchlorate, 1,2,3-Trichloropropane (TCP), an industrial solvent, has many applications, including its use as a paint remover, degreaser and in the manufacture of other chemicals.

There is no MCL or PHG for TCP, but in 2001 the state adopted special monitoring requirements for unregulated chemicals, so its detection above five ppt requires that local governing agencies be notified.

CVWD has been monitoring its wells for TCP since 1988. Using a detection level of 500 parts per trillion, the best available technology could offer, no traces of TCP were found. Last year a new method became available, however, to test for TCP at five ppt.

In late 2002, CVWD tested all of its wells for TCP using this new method. A well on the grounds of the Monterey Country Club, at the corner of Monterey Avenue and Magnesia Falls Drive in Palm Desert, showed TCP levels of 5 ppt and 6 ppt in separate tests.

Although not required to do so, the well was taken out of service Jan. 13. It is being kept as a standby source while CVWD investigates the effectiveness of pumping modifications that may reduce TCP to levels below detection. The source of TCP in this well is not known at this time.

Coachella Valley residents tap high quality, healthful water

This annual water quality report is published to document that extremely high quality and healthful water that meets all government standards is served to all constituents of the Coachella Valley Water District.

Data summarized here come from CVWD's most recent monitoring, completed between 2000-2002. The state allows the monitoring for some contaminants less than once a year because their concentrations do not change frequently.

All domestic water served by the Coachella Valley Water District is obtained locally, from wells drilled into the Coachella Valley's vast groundwater basin.

The Coachella Valley Water District is governed by a locally-elected board of directors, who normally meet in public session at 9 a.m. on the second and fourth Tuesdays of each month at district headquarters, Avenue 52 & Highway 111, Coachella.

Most water quality testing is done in the district's state-certified laboratory. A few highly specialized tests must be sent to other laboratories, which have the very expensive equipment necessary to find minuscule amounts of some constituents.

In addition to the detected constituents listed in the table on the following pages, CVWD's water quality staff of biologists, chemists, engineers and techni-

cians monitor for more than 100 other regulated and unregulated chemicals. All of these are below detection levels in CVWD's domestic water.

While all of CVWD's domestic water supply meets the current standard for arsenic, drinking water supplied to some service areas does contain low levels of this constituent. The standard for arsenic balances the current understanding of the chemical's possible health effects against the costs of removing the constituent from drinking water. The California Department of Health Services continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations, and is linked to other health effects such as skin damage and circulatory problems.

With respect to the presence of arsenic in drinking water in excess of 10 ppb but less than 50 ppb—which is the case for wells supplying the communities of Mecca, Bombay Beach, North Shore, Hot Mineral Spa and Valerie Jean—the state Department of Health Services warns that some people who drink water containing arsenic in excess of the maximum contaminant level (MCL) during many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Radon is a naturally occurring, radioactive gas—a byproduct of uranium—that originates underground but is found in the air. Radon moves from the ground into homes primarily through cracks and holes in their foundations. While most radon enters the home through soil, radon from tap water typically is less than two percent of the radon in indoor air.

The federal Environmental Protection Agency (EPA) has determined that breathing radon gas increases an individual's chances of developing lung cancer, and has proposed a maximum contaminant level of 300 picoCuries per liter (pCi/L) for radon in drinking water. This proposed standard is far less than the 4,000 pCi/L in water that is equivalent to the radon level found in outdoor air. CVWD tests show the radon level in district wells ranges from 80 to 360 pCi/L which is far less radon than that in outdoor air.

Nitrate in drinking water at levels above 45 milligrams per liter (mg/L) is a health risk for infants who are younger than six months old. High nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of skin. If you are caring for an infant you can be assured that your drinking water meets the standards for nitrate. Groundwater nitrate is the most closely monitored chemical in drinking water and nitrate levels do not change quickly in the district's deep wells, used to supply drinking water. If the nitrate level in a well begins to climb, the district increases its monitoring frequency and, if necessary, wells are taken out of service before they become unsafe.

As noted, all drinking water served by CVWD comes from wells. The California Department of Heath Services requires water agencies to state, however, *"the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.*

"Contaminants that may be present in source water include:

—"Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

—"Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

—"Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.

—"Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

—"Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

"In order to ensure that tap water is safe to drink, USEPA and the State Department of Health Services (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

"Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (800-426-4791)."

The district currently is conducting source water assessments to provide information about their vulnerability to contamination. Those assessments have been completed for the district's 14 wells serving its